## STIC Database Tracking Number: 111765

**TO: Nathan Hillery**
**Location: 3C19**
**Art Unit : 2176**
**Friday, January 09, 2004**

**Case Serial Number: 09/708599**

**From: David Holloway**
**Location: EIC 2100**
**PK2-4B30**
**Phone: 308-7794**

**david.holloway@uspto.gov**

## Search Notes

Dear Examiner Hillery,

Attached please find your search results for above-referenced case.
Please contact me if you have any questions or would like a re-focused search.

David

**Today's Date:** 1/9/04

**What date would you like to use to limit the search?**
**Priority Date:** 11/9/99   Other:

**Name** Nathan Hillory

**AU** 2176   **Examiner #** 79971

**Room #** 3C19   **Phone** 5-4502

**Serial #** 08/708,599

**Format for Search Results (Circle One):**
(PAPER)   DISK   EMAIL

**Where have you searched so far?**
(USP)  DWPI   EPO   JPO   ACM   IBM TDB
IEEE   INSPEC   SPI   Other _____

**Is this a "Fast & Focused" Search Request? (Circle One)** (YES)   NO
A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at http://ptoweb/patents/stic/stic-tc2100.htm.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

generating an abstract link (e.g. hyperlink) btw two documents using a Horn clause predicate expression; backtrack evaluation and calculation to bind a variable; and an atom predicate. These are used in Prolog. claims 1-4

**STIC Searcher** David Holloway   **Phone** 308-7994

**Date picked up** 1-9-04   **Date Completed** 1-9-04

DIALOG $530 8/.
36 ami    10 min

```
Set      Items   Description
S1     2714440   LINK? OR HYPERLINK? OR REFER?
S2       19379   HORN()CLAUSE? OR HORNCLAUSE? OR PREDICAT?
S3      280749   BACKTRACK? OR BACK()TRACK? OR REVERSE?
S4           2   ATOM?()PREDICAT?
S5     4469348   HTML? OR MARKUP()LANGUAGE? OR XML OR HYPERTEXT? OR WWW OR -
S6          17   ABSTRACT()LINK?
S7           1   S6 AND (S2 OR S3)
S8          13   S5 AND S6
S9        1037   S1(S)S2
S10         13   S8(S)(S5 OR S3)
S11         19   S4 OR S6 OR S8 OR S10
S12         15   RD (unique items)
S13          7   S12 NOT PY>1999
S14          7   S13 NOT PD>19991109
```

File 647:CMP  Computer Fulltext 1988-2004/Dec W4
        (c) 2004 CMP Media, LLC
File 674:Computer News Fulltext 1989-2004/Jan W1
        (c) 2004 IDG Communications
File 275:Gale Group Computer DB(TM) 1983-2004/Jan 09
        (c) 2004 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
        (c) 1999 The Gale Group
File  16:Gale Group PROMT(R) 1990-2004/Jan 09
        (c) 2004 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2004/Jan 09
        (c)2004 The Gale Group
File 636:Gale Group Newsletter DB(TM) 1987-2004/Jan 09
        (c) 2004 The Gale Group

```
Set      Items   Description
S1     2052741   LINK? OR HYPERLINK? OR REFER?
S2       29425   HORN()CLAUSE? OR HORNCLAUSE? OR PREDICAT?
S3      462240   BACKTRACK? OR BACK()TRACK? OR REVERSE?
S4          30   ATOM?()PREDICAT?
S5       84140   HTML? OR MARKUP()LANGUAGE? OR XML OR HYPERTEXT? OR WWW OR -
S6          12   ABSTRACT()LINK?
S7           0   S6 AND (S2 OR S3)
S8           1   S5 AND S6
S9          12   S6 NOT S7
S10       2014   S1 AND S2
S11         29   S5 AND S10
S12        408   S5 AND S3
S13         81   S12 AND S1
S14          0   (S4 OR S6) AND S13
S15          4   S2 AND S13
S16          0   CLAUSE? AND S13
S17         12   S6 AND (S1 OR S5)
S18          1   S4 AND (S1 OR S5)
S19         42   S8 OR S9 OR S11 OR S15 OR S17 OR S18
S20         35   RD (unique items)
S21         20   S20 NOT PY>1999
S22         19   S21 NOT PD>19991109
File    8:Ei Compendex(R) 1970-2004/Dec W4
          (c) 2004 Elsevier Eng.  Info. Inc.
File   35:Dissertation Abs Online 1861-2003/Nov
          (c) 2003 ProQuest Info&Learning
File  202:Info. Sci. & Tech. Abs. 1966-2003/Nov 17
          (c) 2003 EBSCO Publishing
File   65:Inside Conferences 1993-2004/Jan W1
          (c) 2004 BLDSC all rts. reserv.
File    2:INSPEC 1969-2003/Dec W2
          (c) 2003 Institution of Electrical Engineers
File   94:JICST-EPlus 1985-2004/Jan W1
          (c)2004 Japan Science and Tech Corp(JST)
File  111:TGG Natl.Newspaper Index(SM) 1979-2004/Jan 07
          (c) 2004 The Gale Group
File  233:Internet & Personal Comp. Abs. 1981-2003/Sep
          (c) 2003 EBSCO Pub.
File  144:Pascal 1973-2003/Dec W2
          (c) 2003 INIST/CNRS
File  434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
          (c) 1998 Inst for Sci Info
File   34:SciSearch(R) Cited Ref Sci 1990-2004/Jan W1
          (c) 2004 Inst for Sci Info
File   99:Wilson Appl. Sci & Tech Abs 1983-2003/Nov
          (c) 2003 The HW Wilson Co.
```

01669872   ORDER NO: AAD99-06991
**A FOLDER ORGANIZATION MODEL FOR OFFICE INFORMATION SYSTEMS: EXPLORING ITS ARCHITECTURAL EXPRESSIVE POWER AND PREDICATE-BASED FILING   (MODEL TRANSFORMATION)**
    Author:   DOONG, SIMON
    Degree:   PH.D.
    Year:     1998
    Corporate Source/Institution:   NEW JERSEY INSTITUTE OF TECHNOLOGY (0152)
    Source:   VOLUME 59/09-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
              PAGE 4920.   133 PAGES
    Descriptors:   COMPUTER SCIENCE ; BUSINESS ADMINISTRATION, MANAGEMENT ;
                   INFORMATION SCIENCE
    Descriptor Codes:   0984; 0454; 0723

    This dissertation presents an Internal Folder Organization (I-ORG) which supplements the architectural deficiencies of the existing model--the User Folder Organization (U-ORG), to electronically model a person's filing system in the modern office environment. An I-ORG folder organization gives a logical representation of how documents of the same or different kinds are related and grouped into folders based on predefined premises. Our model is represented by a Rooted Direct Acyclic Graph (RDAG). Each node in the graph represents a folder; and folders are related by "subfolder relationship" (for capturing the "and" relation) and "virtual-folder relationship" (for capturing the "or" relation). Each folder in the organization has a criterion, specifying in terms of a local predicate, which governs the document filing for that folder. The dissertation also investigates how the new model demonstrates its architectural support in the four functional areas: (1) Construction - It reduces the complexity of predicate specifications; (2) Filing - It improves the performance of document distribution; (3) Retrieving - It facilitates system responsiveness to queries, especially for the documents which are frequently requested by the user; and (4) Reorganization - It reduces the volume of documents to be redistributed when the folder organization is modified. The justifications of our model in possession of critical architectural attributes to support the above functions efficiently and effectively are presented throughout this dissertation, which lead us to draw an initial conclusion--our proposed model is architecturally superior over the other representative models.
    In comparison with the I-ORG, which is operational more efficient, the U-ORG has its simplicity because it maintains only a single type of  **link** . Therefore, the implementation of the system can have two models which represent the folder organization at two different levels: the user interface level (or the external representation using U-ORG), and the system execution level (or the internal representation using I-ORG). Interoperabilities between the two models needs to be well-coordinated and kept transparent to the user while the system optimizes its performance by utilizing the architectural strength from both models.
    The dissertation also investigates the transformation between the two models and proposes a step-locked reduction algorithm to accomplish that task. This transformation capability provides to the user more flexibilities to specify predicates when his folder organization is created and represented by an U-ORG. This U-ORG is transformed and fine-tuned into a content-equivalent folder organization represented by an I-ORG, which optimizes the overall predicate structure to help improve the functional performance. In such a final representation, each folder in the organization only associates with a single **atomic   predicate** .

01165266  ORDER NO: AAD91-21157
**AN INTELLIGENT PATH MECHANISM IN  HYPERTEXT : INFORMATION FILTERING USING
ARTIFICIAL INTELLIGENCE IN A COOPERATIVE PROBLEM-SOLVING ENVIRONMENT**
  Author:  RODGERS, CHERYL WILEY
  Degree:  PH.D.
  Year:    1990
  Corporate Source/Institution:  THE UNIVERSITY OF TEXAS AT ARLINGTON (2502
          )
  Supervisor: LYNN L. PETERSON
  Source:  VOLUME 52/02-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
          PAGE 938.  190 PAGES
  Descriptors:  COMPUTER SCIENCE; ARTIFICIAL INTELLIGENCE
  Descriptor Codes:  0984; 0800

    In recent years researchers have begun experimenting with coupling
executable code with  **hypertext**  to transform what was once considered a
basically passive medium into an active one. The cooperative problem
solving application described in this paper performs two functions. The
first is algorithmic problem solving; the second provides online  **reference**
 material on demand during a problem solving session. The algorithmic
problem solver was implemented using an intelligent path embedded in a
**hypertext**  document. The path itself represented the basic design algorithm
of the application domain; procedures attached to the path nodes complete
the problem solving function.
    Online domain specific  **reference**  material is available at any point
during a problem solving session to provide assistance to the user. If the
**reference**  material is used during a problem solving session, a filtering
mechanism is available to control navigational access in the  **hypertext**
document. Filtering has the effect of pruning the search space available
for browsing thereby focusing the user on material that is pertinent to the
task at hand.
    **Hypertext**  systems have been described as consisting of three
components: file access,  **hypertext**  representation, and user interface.
The research reported in this paper describes the use of a fourth component
which applies  **predicates**  to node and  **link**  attributes to produce indices
for the purpose of achieving information filtering as means of managing
navigational access in a  **hypertext**  network.
    Both the intelligent path mechanism and the information filtering
mechanism are described in this paper.

DIALOG(R)File    2:INSPEC

5045168    INSPEC Abstract Number: C9510-7250-007
 **Title: Modelling hypermedia retrieval in Datalog**
  Author(s): Fuhr, N.
  Author Affiliation: Dortmund Univ., Germany
  Conference   Title:  Hypertext  -  Information  Retrieval  -  Multimedia.
Proceedings HIM '95    p.163-74
  Editor(s): Kuhlen, R.; Rittberger, M.
  Publisher: Universitatsverlag Konstanz, Konstanz, Germany
  Publication Date: 1995  Country of Publication: West Germany    337 pp.
  ISBN: 3 87940 509 3
  Conference Title: Hypertext - Information Retrieval - Multimedia
  Conference Date: 5-7 April 1995    Conference Location: Konstanz, Germany
  Language: English    Document Type: Conference Paper (PA)
  Treatment: Theoretical (T)
  Abstract: We take a logical approach to information retrieval in order to
identify  and  describe  new  concepts  required  for performing hypermedia
retrieval.  For  this  purpose, we consider **hypertext  linking** of nodes,
hierarchical  structure  of  documents and document type hierarchies. These
concepts  are  described  in  Datalog,  a  horn  logic  without  functions.
Furthermore, we discuss terminological inference and propose a new approach
for  its  application  in  retrieval, for which we also describe the mapping
into Datalog formulas. It turns out that this logic is able to express most
of the concepts, but that a higher-level language would be more appropriate
for hypermedia retrieval.  (12 Refs)
  Subfile: C
  Descriptors: DATALOG; **Horn   clauses** ; hypermedia; information retrieval
; multimedia computing
  Identifiers: hypermedia retrieval modelling; Datalog; information
retrieval; **hypertext** node **linking** ; hierarchical document structure;
document type hierarchies; horn logic; terminological inference; Datalog
formulas
  Class Codes: C7250  (Information storage and retrieval); C6130M (
Multimedia); C4210  (Formal logic)

4462899    INSPEC Abstract Number: C9309-6160S-015
  Title: **Logic and writing: experiments on the logical structuring of** hypertext **documents**
  Author(s): O'Brian Holt, P.; Howell, G.; Gjengendal, J.
  Author Affiliation: Scottish HCI Centre, Heriot-Watt Univ., Edinburgh, UK
  Conference Title: Proceedings of the Fourth Annual Conference on Computers and the Writing Process    p.190-7
  Publisher: Univ. Sussex, Brighton, UK
  Publication Date: 1991  Country of Publication: UK    v+247 pp.
  Conference Date: 22-23 March 1991    Conference Location: Brighton, UK
  Language: English    Document Type: Conference Paper (PA)
  Treatment: Practical (P); Experimental (X)
  Abstract: An experiment attempting to analyse **hypertextual** semantic **linkings** is conducted. Participants are asked to describe logical relationships between related, semirelated and unrelated paragraphs of text. It is concluded that existence and 'themes' of relationships are (as expected) fairly consistently recognised, however specific relationships do not readily fall into 'natural' **predicates** . Purely 'thematic' relationships, or a 'palette' of available relationships might be the more practical approach. (10 Refs)
  Subfile: C
  Descriptors: hypermedia; linguistics; word processing
  Identifiers: document structuring; word processing; **hypertextual** semantic **linkings**
  Class Codes: C6160S (Spatial and pictorial databases); C7820  (Humanities )

04076903    INSPEC Abstract Number: C9203-6140D-007
 **Title: A logical query language for** hypertext **systems**
  Author(s): Beeri, C.; Kornatzky, Y.
  Author Affiliation: Dept. of Comput. Sci., Hebrew Univ., Jerusalem,
Israel
  Conference Title: Hypertext: Concepts, Systems and Applications.
Proceedings of the First European Conference on Hypertext    p.67-80
  Editor(s): Streitz, N.; Rizk, A.; Andre, J.
  Publisher: Cambridge University Press, Cambridge, UK
  Publication Date: 1990  Country of Publication: UK    x+373 pp.
  ISBN: 0 521 40517 3
  Conference Date: 27-30 Nov. 1990    Conference Location: Versailles,
France
  Language: English    Document Type: Conference Paper (PA)
  Treatment: Practical (P); Theoretical (T)
  Abstract: The search capabilities of **hypertext** systems are limited to
retrieving collections of nodes and **links** based on **predicates** on their
attributes contents. To support sophisticated applications and
user-tailored views of a **hypertext** document, we need a query language
able to retrieve parts of a **hypertext** based on a specification of their
structure. The authors present a logical query language permitting the
formulation of such structural queries over **hypertext** . While the language
is propositional, it includes a general notion of quantifier of the form
appropriate for **hypertext** networks. Quantifiers are used for expressing
formulas of the form.: 'For most paths from the current node, claim X
holds'. In particular, most quantified assertions in natural language are
directly represented in the logic. Formulas in the language are used for a
declarative definition of sophisticated user-tailored views of a **hypertext**
 document. (14 Refs)
  Subfile: C
  Descriptors: directed graphs; formal logic; hypermedia; natural languages
; query languages
  Identifiers: information retrieval; directed graphs; search capabilities;
 **hypertext** systems; nodes; **links** ; **predicates** ; logical query language;
structural queries; general notion of quantifier; natural language
  Class Codes: C6140D (High level languages); C6160Z (Other DBMS); C7250  (
Information storage and retrieval); C4210  (Formal logic)

02597404    INSPEC Abstract Number: C86011592
 **Title: Required features of the artificial intelligence sensors**
 Author(s): Masnikosa, V.P.

 Author Affiliation: Mihailo Pupin Inst., Belgrade, Yugoslavia

 Journal: Automatika     vol.26, no.3-4    p.167-70
 Publication Date: 1985  Country of Publication: Yugoslavia
 CODEN: ATKAAF  ISSN: 0005-1144
 Language: English     Document Type: Journal Paper (JP)
 Treatment: Theoretical (T)

 Abstract:  The  place and role of the artificial intelligence sensors for
the  artificial intelligence (AI) based upon the **abstract    linking** space
(ALS)  are considered. The need for establishing a solid contact of the ALS
with the object during the learning process, through which the requests for
the  realization  of  the  sensors are manifested, is described. Taking the
studies  of  natural  accomplishments  as  the  basis, some limitations are
presented  in  respect  to  the decomposition of the action upon the sensor
contact  surface,  its intensity, and the need for forecasting the movement
of  the  sensors.  In addition to the requirements mentioned, the technical
realization  of  the  sensors  is given. The possibility for designing such
sensors is considered.  (13 Refs)

   Subfile: C
   Descriptors: artificial intelligence; learning systems
   Identifiers: **abstract    linking** space; movement forecasting;
neurocybernetics; artificial intelligence sensors; learning; limitations;
sensor contact surface; intensity; technical realization
   Class Codes: C1230  (Artificial intelligence)

02773492    JICST ACCESSION NUMBER: 96A0736605   FILE SEGMENT: JICST-E
**An Application Interface for Page Image Document Databases based on the
    Entity-Relationship model.**
KATAYAMA NORIO (1); ADACHI JUN (1)
(1) Nat. Center for Sci. Inf. Syst.
ABSTRACT: Recently, the combination of a page image document database and a
    **WWW**  user interface is widely used for digital libraries. Basically,
    such system can be constructed by writing all required  **HTML**
    documents. However, it is necessary to generate them dynamically for
    flexible implementation. There are two problems for generating  **HTML**
    documents: how to identify document components and how to retrieve
    **hyperlink**  information from a database. To solve these problems, we
    applied the entity-relationship model to the application interface of a
    page image document database. By employing the first-order  **predicate**
    logic, we simplifies notations of queries and derivation rules, and
    achieves an application interface having declarative semantics. (author
    abst.)
DESCRIPTORS: database; user interface; document management;  **predicative**
    logic; library service; entity relation model; image; library; document
    image; image database; electronic library
BROADER DESCRIPTORS: interface; documentation; information management;
    management; logic; information service; service; data model; model
CLASSIFICATION CODE(S): JD03030U; IB03000G

03029345    Genuine Article#: MX061    Number of References: 37
**Title: A LOGICAL QUERY LANGUAGE FOR HYPERMEDIA SYSTEMS**
Author(s): BEERI C; KORNATZKY Y
Corporate Source: HEBREW UNIV JERUSALEM,DEPT COMP SCI/IL-91904
    JERUSALEM//ISRAEL/; BEN GURION UNIV NEGEV,DEPT MATH & COMP SCI/IL-84105
    BEER SHEVA//ISRAEL/
Abstract: Hypermedia systems store interlinked collections of information
    of various media such as text, image, voice, and animation. Such
    interlinked collections of information, called hyperdocuments,
    generalize conventional paper documents by directly representing the
    conceptual structure of the information, a graph whose nodes represent
    information chunks, and whose **links** represent the organizational
    structure of the information. The search capabilities of current
    hypermedia systems are limited to retrieving individual nodes and
    **links** based on **predicates** on their local attributes and contents. To
    support sophisticated applications and user-tailored views of a
    hyperdocument, we need a query language able to retrieve parts of a
    hyperdocument based on a specification of their structure. We present a
    logical query language permitting the formulation of such structural
    queries over hyperdocuments. The language is based on propositional
    modal logic, and admits a simple and efficient implementation over
    available hypermedia storage systems. While the language is
    propositional, it includes a general notion of quantifier of the form
    appropriate for hyperdocument graphs; quantifiers are used for
    expressing assertions of the form: ''For most paths from the current
    node, claim X holds.''
Identifiers--KeyWords Plus: TEMPORAL LOGIC; **HYPERTEXT**
Research Fronts: 92-1723 002    (OBJECT-ORIENTED LOGIC PROGRAMMING SYSTEM;
    LINEAR RECURSIVE QUERIES IN DEDUCTIVE DATABASES; ARCHITECTURAL SUPPORT
    FOR GOAL MANAGEMENT)
  92-2204 002    (HUMAN-COMPUTER INTERACTION; **HYPERTEXT** SYSTEMS; TEXT
  RETRIEVAL MODELS; INFORMATION FILTERING METHODS)
  92-2912 001    (OBJECT-ORIENTED DESIGN; SOFTWARE SYSTEMS; REAL-TIME
  PROPERTIES)
Cited References:
    AFRATI F, 1990, P52, HYPERTEXT CONCEPTS S
    AHO A, 1979, P110, 6TH P ACM S PRINC PR
    ASTRAHAN MM, 1976, V1, P97, ACM T DATABASE SYSTE
    ATKINSON M, 1989, P40, 1ST P INT C DED OBJ
    BANCILHON F, 1986, P1, 5TH P ACM S PRINC DA
    BARWISE J, 1981, V4, P159, LINGUIST PHILOS
    CAMPBELL B, 1988, V31, P856, COMMUN ACM
    CAONSENS M, 1990, P379, INT C DATABASE THEOR
    CLARKE E, 1981, P WORKSHOP LOGIC PRO
    CLARKE EM, 1986, V8, P244, ACM T PROGR LANG SYS
    CLIFTON C, 1990, P36, P INT C VERY LARGE D
    CONKLIN J, 1988, V6, P303, ACM T OFFIC INFORM S
    CONKLIN J, 1987, V20, P17, IEEE COMPUT
    CONSENS M, 1989, P269, 2ND P ACM HYP C
    CONSENS M, 1990, P404, 9TH P ACM SIGACT SIG
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    DELISLE N, 1986, P132, ACM SIGMOD INT C MAN
    DEUX O, 1991, V34, P34, COMMUN ACM
    EMERSON E, 1981, P169, P INT C AUTOMATA LAN
    EMERSON EA, 1985, V30, P1, J COMPUT SYST SCI
    EVEN S, 1979, GRAPH ALGORITHMS
    FRISSE ME, 1988, V31, P880, COMMUN ACM

GARG PK, 1988, V31, P862, COMMUN ACM
GOLBE C, 1992, P39, MAR P INT C EXT DATA
HALASZ FG, 1988, V31, P836, COMMUN ACM
KRIPKE SA, 1959, V24, P1, J SYMBOLIC LOGIC
LUCARELLA D, 1990, P81, HYPERTEXT CONCEPTS S
MANNINO M, 1990, V2, P353, IEEE T KNOWL DATA EN
MCCALL R, 1990, P152, HYPERTEXT CONCEPTS S
PEARL A, 1989, P137, P ACM HYPERTEXT C
SCHUTT H, 1990, P95, HYPERTEXT CONCEPTS S
STOTTS PD, 1989, V7, P3, ACM T INFORM SYST
TOMPA FW, 1989, V7, P85, ACM T INFORM SYST
ULLMAN JD, 1985, V10, P289, ACM T DATABASE SYST
ULLMAN JD, 1988, PRINCIPLES DATABASE
UTTING K, 1989, V7, P58, ACM T INFORM SYST
VARDI MY, 1982, P137, P ACM SIGACT S THEOR

```
Set        Items    Description
S1        981534    LINK? OR HYPERLINK? OR REFER?
S2          1203    HORN()CLAUSE? OR HORNCLAUSE? OR PREDICAT?
S3        311509    BACKTRACK? OR BACK()TRACK? OR REVERSE?
S4             1    ATOM()PREDICAT?
S5        186348    HTML? OR MARKUP()LANGUAGE? OR XML OR HYPERTEXT? OR WWW OR -
                    DOCUMENT? OR PAGE? OR WEBPAGE? OR WEBSITE?
S6             2    ATOM?()PREDICAT?
S7           201    S1 AND (S2 OR S6)
S8            15    S7 AND S5
S9             7    S7 AND S3
S10           21    S8 OR S9
S11           19    S10 AND IC=G06F?
File 347:JAPIO Oct 1976-2003/Sep(Updated 040105)
         (c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200402
         (c) 2004  Thomson Derwent
```

06907081     **Image available**
DEVICE   FOR   DESCRIBING   **DOCUMENT**   **LINK** , DEVICE FOR GENERATING   **DOCUMENT**
**LINK**  AND STORAGE MEDIUM

PUB. NO.:        2001-134606  [JP 2001134606  A]
PUBLISHED:       May 18, 2001 (20010518)
INVENTOR(s):     ODA TOSHIHIKO
APPLICANT(s):    RICOH CO LTD
APPL. NO.:       11-317668  [JP 99317668]
FILED:           November 09, 1999 (19991109)
INTL CLASS:      **G06F-017/30 ;  G06F-012/00**

ABSTRACT
PROBLEM TO BE SOLVED: To reduce work that describes a **document** **link** and
to reduce the size of a **document** to be described.

SOLUTION: An  abstract   **link**   description  file  is  prepared  so  as to
represent the **document**  **link**  by describing an abstract  **link**  in which a
 **link**  establishment condition being a condition for deciding the  **document**
  **link**    that   **links**    the   **document**   file  of  a  **link**  source and the
 **document**   file  of  a   **link**   destination  by  retrieving  the  **document**
information   of   both   the   **document**   files   in   the  abstract   **link**
description file. The abstract  **link**  description file is also prepared so
that the abstract  **link**  can describe the quality of **document** elements of
the  **document**  files of the  **link**  source and destination on the basis of
 **Horn**   **clause**   **predicate**  representation. The abstract  **link**  description
file  is  further  prepared  so  as to guide the **document** elements of the
 **document**   files  of  the  **link**  source and destination from the **backtrack**
calculation and the calculation performing variable restraint by retrieving
the  **document**  information.  The abstract  **link**  is described by using an
 **atom**   **predicate** .

COMPUTER SHARING TECHNOLOGY DICTIONARY

ABSTRACT
PROBLEM TO BE SOLVED: To store the basic knowledge and relative knowledge
of technical terms on computers, to enable the computers to transfer or
process the stored knowledge, and to optionally take out them for use.

SOLUTION: The basic knowledge and relative knowledge of technical terms
represented by a one-story **predicate** logical expression are stored while
classified into three kinds of finite concept elements structured by use of
a combination of a relative concept **link** and term nodes 2, 5, and 8. The
basic knowledge of index words 1, 4, and 7 is stored in a star type concept
element (a), the relative knowledge is stored in a tree type concept
element (b), and associate knowledge is stored in a triangular concept
element (c) respectively; when there is an inquiry about a specific index
word, secondary derivative knowledge is created and provided in addition to
the basic knowledge and relative knowledge in the original form. A
**document** having no term limitation or a term of a knowledge base is
replaced with a standard word, i.e., index word by means of a homonym
standardizing function to improve the precision and the processing speed of
knowledge processing.

DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

03441026     **Image available**
INTERFACE METHOD FOR PROLOG INTERPRETER COMPILER

PUB. NO.:       03-103926  [JP 3103926  A]
PUBLISHED:      April 30, 1991 (19910430)
INVENTOR(s):    OTSU YOSHIYUKI
                SUZUKI HIROSHI
                ISHIKAWA TAKASHI
                SATO HIDEKI
                ABE SHIGEO
APPLICANT(s):   HITACHI LTD [000510] (A Japanese Company or Corporation), JP
                (Japan)
                HITACHI PROCESS COMPUT ENG INC [485525] (A Japanese Company
                or Corporation), JP (Japan)
APPL. NO.:      01-240638  [JP 89240638]
FILED:          September 19, 1989 (19890919)
INTL CLASS:     [5]  G06F-009/44
JAPIO CLASS:    45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL:        Section: P, Section No. 1232, Vol. 15, No. 300, Pg. 75, July
                30, 1991 (19910730)

                          ABSTRACT
PURPOSE:  To improve the execution performance of a user  predicate  at the
time  of  mixing  and  executing an interpreter code and a compiler code by
directly  informing  an interface processing program, which controls mixing
and  execution  of  the  interpreter  code  and  the  compiler code, of the
presence or the absence of a  back    track .

CONSTITUTION:  When a user inputs information 101 indicating the absence of
a  back    track  to a prolog language processing system 103 in some form by
an  input 102, the prolog language processing system 103 stores the absence
of  a  back     track  in  an  interface flag 104. The interface flag 104
indicating  the absence of a  back    track  is provided in this manner, and
the  interface  flag  104 is  referred  at the time of mixing and executing
the  interpreter  code and the compiler code to skip the save processing of
execution  circumstances  for  back      track . Thus,  a user program is
executed at the high speed.

02539342     **Image available**
INFORMATION PROCESSOR

ABSTRACT
PURPOSE: To improve the effect of parallel installation of processors and
the efficiency of execution control by providing each element processor of
a multiprocessor information processor with an associative memory for work
information storage.

CONSTITUTION: In an element processor 1, a **back  track** stack 8 and a
**predicate** call stack 9 in a **predicate** processing part 6 and a bind
information stack 13 in an argument processing part 7 consist of
associative memories. Since work information is stored in the stack 13,
only bind information to be transferred is retrieved in case of load
distribution and only object bind information is transferred. Bind
information is accessed in each element processor 1 and between element
processors by associative access with two association keys of variable name
and inference depth to reduce the overhead for **reference** . Thus, the
effect of parallel installation of processors, and the execution control
efficiency are improved.

02299143     **Image available**
LOGICAL LANGUAGE PROCESSOR

ABSTRACT

PURPOSE: To suppress the occurrence of a redundant **back    track** , to
secure the faster processing and  to reduce the memory consumption in a
**back     track**  system for a logical language processor, by producing a
**predicate**  identifying frame in place of a selection point when a
**predicate**  has no substitute answer to attain an operator with a label.

CONSTITUTION: When a **predicate**   (p:-q, r.) is called out by a question
node, a selection point frame 210 containing a **predicate** identifier p/o
(o: number of arguments) is produced by a selection point program
production means 110 since a **predicate**  (p- has a substitute answer. While
a **predicate**  identifier frame 220 having a **predicate**  identifier q/o is
produced by a **predicate**   identifier frame production means 140 since a
**predicate**    (q)  has no substitute answer in case a **predicate**  (q:-t, u.)
is called out. Then a **predicate**  (t) is called out and a selection point
frame 220 is produced in the same way. Under such conditions, a goal (w)
fails and therefore a **back    track** action is carried out to obtain the
next substitute answer of the (p) by a **back    track** executing means 130
by using the **back    track** information stored in the final frame 210 if
traced back from a **link** register 170.

015442196     **Image available**
WPI Acc No: 2003-504338/200347
XRPX Acc No: N03-400492
   Document **requesting method, involves receiving one**  document  **requested
   by request and storing it in local storage that is local to one computer,
   and attempting to service user request from the local storage**
Patent Assignee: BELLARE K G (BELL-I); DESAI S (DESA-I); SCHIRESON M
   (SCHI-I); ORACLE CORP (ORAC-N)
Inventor: BELLARE K G; DESAI S; SCHIRESON M
Number of Countries: 096  Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20030088580 | A1 | 20030508 | US 200111073 | A | 20011107 | 200347 | B |
| WO 200340886 | A2 | 20030515 | WO 2002US35574 | A | 20021106 | 200347 | |

Priority Applications (No Type Date): US 200111073 A 20011107
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20030088580 | A1 | | 14 | G06F-017/00 | |
| WO 200340886 | A2 | E | | G06F-000/00 | |

   Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH
   CN CO CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE
   KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL
   PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZM ZW
   Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB
   GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

Abstract (Basic): US 20030088580 A1
       NOVELTY - The method involves sending one request for one of the
   second **documents**  **referred** by the identified **references**  in a first
   **document** . The second **document**  requested is received and stored in
   local storage of first computer. Service to a user request is done from
   the local storage and a third request is sent to the second computer
   for one of the second **documents** , which is not stored in the local
   storage.
       DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a
   computer configured to request **documents**  from a computer over a
   computed network.
       USE - Used for requesting **documents**  to access a World Wide Web.
       ADVANTAGE - The method improves the browsers by optimizing his or
   her navigation through web sites and efficiently delivers content to
   users. The method efficiently utilizes resources of the time and
   bandwidth.
       DESCRIPTION OF DRAWING(S) - The drawing shows aspects of a method
   of pre-emptive and **predicative**  **page** catching according to **document**
   requesting method.
       pp; 14 DwgNo 2/4
Title Terms: **DOCUMENT** ; REQUEST; METHOD; RECEIVE; ONE; **DOCUMENT** ; REQUEST
   ; REQUEST; STORAGE; LOCAL; STORAGE; LOCAL; ONE; COMPUTER; ATTEMPT;
   SERVICE; USER; REQUEST; LOCAL; STORAGE
Derwent Class: T01
International Patent Class (Main): **G06F-000/00** ; **G06F-017/00**
International Patent Class (Additional): **G06F-015/167**
File Segment:. EPI

010849600     **Image available**
WPI Acc No: 1996-346553/199635
XRPX Acc No: N96-291845
     Document    reference **appts. for e.g. word processor, office computer -
**has** reference **memory that stores extended contents to input sentence
component based on analysis result, and** reference **unit which searches**
document **based on** reference **conditions corresp. to extended contents**
Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU  )
Number of Countries: 001  Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| JP 8161354 | A | 19960621 | JP 94306105 | A | 19941209 | 199635 | B |
| JP 2970443 | B2 | 19991102 | JP 94306105 | A | 19941209 | 199951 | |

Priority Applications (No Type Date): JP 94306105 A 19941209
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| JP 8161354 | A | | 17 | G06F-017/30 | |
| JP 2970443 | B2 | | 17 | G06F-017/30 | Previous Publ. patent JP 8161354 |

Abstract (Basic): JP 8161354 A
     The appts. has a language processor (13) which receives the
analysis result showing the component and the syntax pattern of an
input sentence from a user. An extended rule memory (16) stores the
extended rule of the input sentence component and the syntax pattern. A
 **reference** memory (15) stores the extended rule contents to each input
sentence component based on the analysis result.
     An extended unit (14) receives the extended contents, and a
**reference** condition generation unit (17) forms the **reference**
conditions corresp. to the extended contents. A **reference** unit (18)
searches a **document** according to the **reference** conditions.
     USE/ADVANTAGE - For e.g. electronic mail, electronic catalogue and
electronic publication. Easily corresponds to syntax positioning in
input sentence of component e.g. purpose rank, place rank, main units
and **predicate** . Increases **reference** precision and efficiency due to
extended **reference** conditions.
     Dwg.1/8
Title Terms: **DOCUMENT** ; **REFERENCE** ; APPARATUS; WORD; PROCESSOR; OFFICE;
  COMPUTER; **REFERENCE** ; MEMORY; STORAGE; EXTEND; CONTENT; INPUT; SENTENCE;
  COMPONENT; BASED; ANALYSE; RESULT; **REFERENCE** ; UNIT; SEARCH; **DOCUMENT** ;
  BASED; **REFERENCE** ; CONDITION; CORRESPOND; EXTEND; CONTENT
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
International Patent Class (Additional): **G06F-017/21**
File Segment: EPI

DIALOG(R)File 350:Derwent WPIX
(c) 2004  Thomson Derwent. All rts. reserv.

009280277     **Image available**
WPI Acc No: 1992-407688/199250
XRPX Acc No: N92-310992
  **Data-flow dependency** back - tracking  **method for expert reasoning system
  - constituting virtual machine operated by host computer processor and
  solving problems input by interpreting stored logic programs by Proof
  Procedure**
Patent Assignee: UNIV SIMON FRASER (UYFR-N)
Inventor: HAVENS W S
Number of Countries: 001  Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|-----------|------|------|-------------|------|------|------|---|
| CA 2063974 | A | 19920926 | CA 2063974 | A | 19920325 | 199250 | B |

Priority Applications (No Type Date): US 91675538 A 19910325
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|-----|----------|--------------|
| CA 2063974 | A | | 50 | G06F-015/18 | |

Abstract (Basic): CA 2063974 A
      The method involves refining the domain of possible values of a
   logical variable within a predefined set of hypotherical logical
   constraints and involves propagating an Event. The Event consists of a
   pair, a Binding and a Label. The term ''binding'' **refers**  to the
   domain or set of possible values that a variable could equal to be
   ''bound'' to. A new binding represents the new domain of a variable
   after some change has occurred in the old domain or the old binding of
   the variable.
      A Label is the set of rules of **Horn   Clause**  choices that caused
   the new binding to occur. The new binding is used during the Proof
   Procedure and the Label is used during Intelligent **Back - tracking** .
   The Invention is a component of the Dataflow Dependency **Backtracking**
   Mechanism (''DDBM''), which is an expert system reasoning engine
   (Havens91a). The DDBM exists in software form and is realised in the
   programming language of the Echidna Constaint Logic Programming (CLP)
   system.
      USE/ADVANTAGE - E.g. for CAD system, real-time process control and
   knowledge-based diagnosis. Combines techologues of logic programming,
   constraint reasoning and intelligent **back - tracking** . Resets status
   of all Horn Caluse choices upon any failure, and restores failed
   clauses which may succeed with different parameter or constraints.
      Dwg.4/15
Title Terms: DATA; FLOW; DEPEND; BACK; TRACK; METHOD; EXPERT; SYSTEM;
   CONSTITUTE; VIRTUAL; MACHINE; OPERATE; HOST; COMPUTER; PROCESSOR; SOLVING
   ; PROBLEM; INPUT; INTERPRETATION; STORAGE; LOGIC; PROGRAM; PROOF;
   PROCEDURE
Derwent Class: T01
International Patent Class (Main): **G06F-015/18**
File Segment: EPI

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Set       Items    Description
S1        981534   LINK? OR HYPERLINK? OR REFER?
S2          1203   HORN()CLAUSE? OR HORNCLAUSE? OR PREDICAT?
S3        311509   BACKTRACK? OR BACK()TRACK? OR REVERSE?
S4             2   ATOM?()PREDICAT?
S5         10397   HTML? OR MARKUP()LANGUAGE? OR XML OR HYPERTEXT? OR WWW OR -
S6             6   ABSTRACT()LINK?
S7             2   S6 AND (S2 OR S3)
S8             0   S5 AND S6
S9             4   S6 NOT S7
S10            4   IDPAT (sorted in duplicate/non-duplicate order)
S11            3   IDPAT (primary/non-duplicate records only)
File 347:JAPIO Oct 1976-2003/Sep(Updated 040105)
         (c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200402
         (c) 2004  Thomson Derwent
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015321410     **Image available**
WPI Acc No: 2003-382345/200336
XRPX Acc No: N03-305459
   **Control system for an agricultural operation for environmental control
   has control computer that manages sensor data and affects the state of
   the hardware devices**
Patent Assignee: OCCIDENTAL FOREST FARMS LLP (OCCI  )
Inventor: DOLGOFF A; LAREAU D
Number of Countries: 101  Number of Patents: 001
Patent Family:
Patent No       Kind   Date      Applicat No     Kind    Date       Week
WO 200338531    A1    20030508   WO 2002US34983  A      20021031   200336  B

Priority Applications (No Type Date): US 2001336276 P 20011031
Patent Details:
Patent No  Kind Lan Pg   Main IPC     Filing Notes
WO 200338531  A1 E    90 G05B-011/01
   Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
   CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN
   IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
   OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN
   YU ZA ZM ZW
   Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB
   GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

Abstract (Basic): WO 200338531 A1
        NOVELTY - The system includes control-related elements, including
   one or more sensors that may sense one or more environmental
   conditions, and one or more devices that may effect the environmental
   conditions. Optionally one or more variables and the control-related
   elements are collectively referred to as linkable entities. A control
   computer manages sensor data and affects the state of the hardware
   devices. Machine executable programs of instructions include a control
   process that provides for **abstract   linkages** and relationships to be
   implemented among the linkable entities.
        DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the
   following:
        (a) a method for controlling an agricultural operation;
        (b) an article of manufacture embodying a program of instruction
   executable by a machine.
        USE - For environmental control system.
        ADVANTAGE - Provides hardware and software package that controls
   environmental and other conditions such as those in greenhouses.
        DESCRIPTION OF DRAWING(S) - The figure shows a GUI that shows a
   sensors dialog box.
        pp; 90 DwgNo 10/18
Title Terms: CONTROL; SYSTEM; AGRICULTURE; OPERATE; ENVIRONMENT; CONTROL;
   CONTROL; COMPUTER; MANAGE; SENSE; DATA; AFFECT; STATE; HARDWARE; DEVICE
Derwent Class: T01; T06; W01; W05
International Patent Class (Main): G05B-011/01
File Segment: EPI

014143555     **Image available**
WPI Acc No: 2001-627766/200173
XRPX Acc No: N01-468097
   **Route selection optimizing method in asynchronous transfer mode
   communication system, involves aggregating multiple parallel links
   between branch points having best topology parameters, into  abstract
   link**

Patent Assignee: TELEFONAKTIEBOLAGET ERICSSON L M (TELF ); OSTER G
    (OSTE-I); SONG J Z (SONG-I)
Inventor: OESTER G; ZEYU SONG J; OSTER G; SONG J Z
Number of Countries: 026  Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|-----------|------|------|-------------|------|------|------|---|
| EP 1135000 | A1 | 20010919 | EP 2000105723 | A | 20000317 | 200173 | B |
| US 20010030962 | A1 | 20011018 | US 2001808134 | A | 20010315 | 200173 | |

Priority Applications (No Type Date): EP 2000105723 A 20000317
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|-----|----------|--------------|
| EP 1135000 | A1 | E | 14 | H04Q-011/04 | |

    Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
    LI LT LU LV MC MK NL PT RO SE SI

| US 20010030962 | A1 | | | H04L-012/28 | |

Abstract (Basic): EP 1135000 A1
    NOVELTY - A link having most favorable topology metric value (TM)
    and a link having most favorable topology attribute value (TA) are
    selected from a set of parallel links (L1-L3) between two branch points
    (B,E). The selected links are aggregated to form an **abstract link**
    (SUPER) between that branch points. The **abstract link** is
    represented by the best TA and TM.
    DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for
    route selection optimizing arrangement in communication system.
    USE - For optimizing the route selection in an asynchronous
    transfer mode (ATM) communication system.
    ADVANTAGE - A route selection is optimized for communication system
    having multiple parallel links between two branch points within the
    route, by using an **abstract link** between the two branch points,
    having best topology parameters.
    DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of
    an ATM based communication system having single links in between and
    nodes with multiple parallel links in between.
    Branch points (B,E)
    Parallel links (L1-L3)
    **Abstract link** (SUPER)
    pp; 14 DwgNo 2/4
Title Terms: ROUTE; SELECT; METHOD; ASYNCHRONOUS; TRANSFER; MODE;
  COMMUNICATE; SYSTEM; AGGREGATE; MULTIPLE; PARALLEL; LINK; BRANCH; POINT;
  TOPOLOGICAL; PARAMETER; ABSTRACT; LINK
Derwent Class: W01
International Patent Class (Main): H04L-012/28; H04Q-011/04
File Segment: EPI


 11/5/3      (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011194309    **Image available**
WPI Acc No: 1997-172234/199716
XRPX Acc No: N97-142163
    **Routing system using physical and logical links for ATM communication in
    network - in which** abstract **link state is made to be in accordance
    with link topology which configures network, by distributing** abstract
    **link state information to all switches**
Patent Assignee: NEC CORP (NIDE )
Inventor: IWATA A
Number of Countries: 003  Number of Patents: 004
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|-----------|------|------|-------------|------|------|------|---|
| JP 9036873 | A | 19970207 | JP 95182320 | A | 19950719 | 199716 | B |
| CA 2181425 | A | 19970120 | CA 2181425 | A | 19960717 | 199721 | |
| US 5687168 | A | 19971111 | US 96680678 | A | 19960716 | 199751 | |
| CA 2181425 | C | 20020430 | CA 2181425 | A | 19960717 | 200237 | |

Priority Applications (No Type Date): JP 95182320 A 19950719
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|-----|-----------|--------------|
| JP 9036873 | A | | 13 | H04L-012/28 | |
| CA 2181425 | A | | | H04L-012/56 | |
| US 5687168 | A | | 14 | H04L-012/28 | |
| CA 2181425 | C | E | | H04L-012/56 | |

Abstract (Basic): JP 9036873 A
     The system includes a protocol unit to switch with which, each link (62) connecting adjacent switches, is connected. a link abstraction part (67) establishes an **abstract link** , packing those links connected to the same switch into single virtual link. The information relating to the link state is synthesised and the **abstract link** state is identified.
     The **abstract link** state is made to be in accordance with the link topology already existing in the network, by distributing **abstract link** state information to all switches in the network. thus, several link states come to be represented as **abstract links** .
     ADVANTAGE - Reduces information content to be distributed. Shortens distribution time. Facilitates reliable information distribution.
     Dwg.5/9
Title Terms: ROUTE; SYSTEM; PHYSICAL; LOGIC; LINK; ATM; COMMUNICATE; NETWORK; ABSTRACT; LINK; STATE; MADE; ACCORD; LINK; TOPOLOGICAL; CONFIGURATION; NETWORK; DISTRIBUTE; ABSTRACT; LINK; STATE; INFORMATION; SWITCH
Derwent Class: W01
International Patent Class (Main): H04L-012/28; H04L-012/56
International Patent Class (Additional): H04Q-003/00
File Segment: EPI